Release notes for ENDF/B Development n-044_Ru_100 evaluation



April 26, 2017

- checkr Warnings:
 - 1. A previous error halted parsing of the current section MAT=4437, MF=1, MT=451 (1): Parsing stopped

ERROR(S) FOUND IN MAT=4437, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER 277 TO 338

- checkr Errors:
 - 1. A variable is outside the allowed ENDF range MAT=4437, MF=1, MT=451 (0): Variable range

ERROR(S) FOUND IN MAT=4437, MF= 1, MT=451
MOD = 1 OUT OF RANGE 0 - 0 RECORD NUMBER 277

2. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=2, MT=151 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY RECORD NUMBER 340

3. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=1 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY RECORD NUMBER 501

4. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=2 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY RECORD NUMBER 529

5. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=4 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY RECORD NUMBER 557

6. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=16 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY RECORD NUMBER 574

7. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=17 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 17 SECTION 3/ 17 NOT IN DIRECTORY

RECORD NUMBER 584

8. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 22 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 22 SECTION 3/ 22 NOT IN DIRECTORY

RECORD NUMBER 590

9. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=28 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 28

SECTION 3/ 28 NOT IN DIRECTORY

RECORD NUMBER 604

10. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=32 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 32 SECTION 3/ 32 NOT IN DIRECTORY

RECORD NUMBER 615

11. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=51 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 51 SECTION 3/ 51 NOT IN DIRECTORY

RECORD NUMBER 622

12. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=52 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 52 SECTION 3/ 52 NOT IN DIRECTORY

RECORD NUMBER 639

13. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=53 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 53 SECTION 3/ 53 NOT IN DIRECTORY

RECORD NUMBER 655

14. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=54 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 54 SECTION 3/ 54 NOT IN DIRECTORY

RECORD NUMBER 670

15. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=55 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 55 SECTION 3/55 NOT IN DIRECTORY

RECORD NUMBER

16. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 56 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 56 SECTION 3/56 NOT IN DIRECTORY

RECORD NUMBER 699

17. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 57 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 57 SECTION 3/57 NOT IN DIRECTORY

712 RECORD NUMBER

18. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 58 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 58 SECTION 3/ 58 NOT IN DIRECTORY

RECORD NUMBER 725

19. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 59 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 59 SECTION 3/59 NOT IN DIRECTORY

RECORD NUMBER 737

20. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 60 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 60 SECTION 3/60 NOT IN DIRECTORY

RECORD NUMBER 749

21. Missing a section in directory so your directory is messed up. This error will break ev-

erything else MAT = 4437, MF = 3, MT = 61 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 61 SECTION 3/61 NOT IN DIRECTORY

RECORD NUMBER 761

22. Missing a section in directory so your directory is messed up. This error will break everything else MAT = 4437, MF = 3, MT = 62 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 62 SECTION 3/62 NOT IN DIRECTORY

RECORD NUMBER 772

23. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 63 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 63 SECTION 3/ 63 NOT IN DIRECTORY

RECORD NUMBER 783

24. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 64 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 64 SECTION 3/ 64 NOT IN DIRECTORY

RECORD NUMBER 794

25. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 65 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 65 SECTION 3/ 65 NOT IN DIRECTORY

RECORD NUMBER 804

26. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 66 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 66 SECTION 3/ 66 NOT IN DIRECTORY

RECORD NUMBER 814

27. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT= 91 SECTION 3/ 91 NOT IN DIRECTORY

RECORD NUMBER 824

28. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=102 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT=102 SECTION 3/102 NOT IN DIRECTORY

RECORD NUMBER

833

29. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 103 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT=103 SECTION 3/103 NOT IN DIRECTORY

RECORD NUMBER 856

30. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=104 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT=104 SECTION 3/104 NOT IN DIRECTORY

RECORD NUMBER 870

31. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=3, MT=105 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT=105 SECTION 3/105 NOT IN DIRECTORY

RECORD NUMBER 882

32. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 3, MT = 107 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 3, MT=107 SECTION 3/107 NOT IN DIRECTORY

RECORD NUMBER 892

33. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=2 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 2 SECTION 4/ 2 NOT IN DIRECTORY

RECORD NUMBER 909

34. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=16 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 16 SECTION 4/ 16 NOT IN DIRECTORY

RECORD NUMBER 1100

35. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=17 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 17 SECTION 4/ 17 NOT IN DIRECTORY

RECORD NUMBER 1111

36. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=22 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 22 SECTION 4/ 22 NOT IN DIRECTORY

RECORD NUMBER 1122

37. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=28 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 28 SECTION 4/ 28 NOT IN DIRECTORY

RECORD NUMBER 1133

38. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=32 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 32 SECTION 4/ 32 NOT IN DIRECTORY

RECORD NUMBER 1144

39. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=51 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 51 SECTION 4/51 NOT IN DIRECTORY

RECORD NUMBER 1155

40. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 52 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 52 SECTION 4/ 52 NOT IN DIRECTORY

RECORD NUMBER 1256

41. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 53 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 53 SECTION 4/53 NOT IN DIRECTORY

RECORD NUMBER 1279

42. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 54 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 54 SECTION 4/54 NOT IN DIRECTORY

RECORD NUMBER 1302

43. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 55 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 55 SECTION 4/55 NOT IN DIRECTORY

RECORD NUMBER 1325

44. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 56 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 56 SECTION 4/56 NOT IN DIRECTORY

RECORD NUMBER 1348

45. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 57 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 57 SECTION 4/ 57 NOT IN DIRECTORY

RECORD NUMBER 1371

46. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 58 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 58 SECTION 4/58 NOT IN DIRECTORY

RECORD NUMBER 1394

47. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 59 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 59 SECTION 4/ 59 NOT IN DIRECTORY

RECORD NUMBER 1417

48. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 60 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 60 SECTION 4/ 60 NOT IN DIRECTORY

RECORD NUMBER 1483

49. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 61 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 61 SECTION 4/ 61 NOT IN DIRECTORY

RECORD NUMBER 1506

50. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 62 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 62 SECTION 4/ 62 NOT IN DIRECTORY

RECORD NUMBER 1529

51. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 63 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 63 SECTION 4/ 63 NOT IN DIRECTORY

RECORD NUMBER 1552

52. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 64 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 64 SECTION 4/ 64 NOT IN DIRECTORY

RECORD NUMBER 1575

53. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 4, MT = 65 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 65 SECTION 4/ 65 NOT IN DIRECTORY

RECORD NUMBER 1598

54. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=66 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 66 SECTION 4/ 66 NOT IN DIRECTORY

RECORD NUMBER 1621

55. Missing a section in directory so your directory is messed up. This error will break everything else MAT=4437, MF=4, MT=91 (0): Directory (b)

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ERROR(S) FOUND IN MAT=4437, MF= 4, MT= 91
SECTION 4/ 91 NOT IN DIRECTORY
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RECORD NUMBER 1644

56. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 16 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 16 SECTION 5/ 16 NOT IN DIRECTORY

RECORD NUMBER 1668

57. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 17 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 17 SECTION 5/ 17 NOT IN DIRECTORY

RECORD NUMBER 1720

58. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 22 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 22

SECTION 5/ 22 NOT IN DIRECTORY

RECORD NUMBER 1744

59. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 28 $\,$

SECTION 5/ 28 NOT IN DIRECTORY

RECORD NUMBER 1940

60. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 32 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 32

SECTION 5/ 32 NOT IN DIRECTORY

RECORD NUMBER 2029

61. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 4437, MF = 5, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=4437, MF= 5, MT= 91 SECTION 5/ 91 NOT IN DIRECTORY

RECORD NUMBER 2062

- psyche Warnings:
 - 1. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ISOTOPE MASS = 100. L = 1 / STRENGTH FUNCTION IS 1.24525E-03 / STRENGTH FUNCTION 1.24525E-03 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

FILE 2

SECTION 151

ISOTOPE MASS = 100. L = 1

STRENGTH FUNCTION IS 1.24525E-03

STRENGTH FUNCTION 1.24525E-03

... [1 more lines]

- groupie Errors:
 - 1. Very small elastic cross section found θ : Small elastic

- fudge-4.0 Warnings:
 - 1. Missing a channel with a particular angular momenta combination resonances / resolved / MultiLevel_BreitWigner (Error # 0): missingResonanceChannel

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WARNING: Missing a channel with angular momenta combination L=0, J=1.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=0.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=1.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=2.5 and S=1.5 for "capture"
```

2. Cross section does not match sum of linked reaction cross sections $crossSectionSum\ label\ 0:\ total\ (Error\ \#\ 0):\ CS\ Sum.$

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.40%

3. Cross section does not match sum of linked reaction cross sections $crossSectionSum\ label\ 1:\ (z,n)\ (Error\ \#\ 0):\ CS\ Sum.$

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.12%

- fudge-4.0 Errors:
 - 1. Calculated and tabulated Q values disagree.

 reaction label 19: n[multiplicity:'3'] + Ru98 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -17131776.85176086 eV vs -1.71478e7 eV!

2. Calculated and tabulated Q values disagree. reaction label 21: n + H2 + Tc98 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -15921561.50067139 eV vs -1.58472e7 eV!

3. Calculated and tabulated Q values disagree. reaction label 25: H2 + Tc99-s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -6954874.29486084 eV vs -6878910. eV!

- njoy2012 Warnings:
 - 1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

 groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 16 only mf4/mf5 provided

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 17 only mf4/mf5 provided

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 22 only mf4/mf5 provided

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to good evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 28 only mf4/mf5 provided

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 32 only mf4/mf5 provided

6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (5): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 91 only mf4/mf5 provided